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LATE WOODLAND FORTIFICATIONS IN NORTHERN OHIO: THE GREENWOOD VILLAGE SITE

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ABSTRACT

Since the late nineteenth century all of the archaeological sites located on steep bluffs overlooking the major rivers of northern Ohio have been considered fortified villages. The belief that such sites were defensive was given support by the results of some excavations which also demonstrated a Late Woodland temporal placement. Recent excavation at one such site, the Greenwood Village site, demonstrated that its still visible earthworks are not defensive but used construction techniques similar to those at Southern Ohio Middle Woodland ceremonial earthworks. Carbon-14 and thermoluminescence dates place the earthworks' construction and ceremonial use of the Greenwood Village site plateau between A.D. 460 and A.D. 1040. Critical review of several similar hilltop enclosures shows many are neither defensive works, nor are they all from late prehistoric periods.

Introduction

Since initial documentation, the presence of prehistoric villages and accompanying fortifications have come to be the hallmark of the Whittlesey Tradition in northern Ohio. Recorded by Colonel Charles Whittlesey in the nineteenth century, these sites, high atop steeply sided bluffs overlooking major river valleys and their tributary streams, are characterized by the presence of earthen walls and ditches. During the years since Whittlesey's survey many of these sites have been destroyed through urban expansion, vandalism or both.

Excavation on some Whittlesey Tradition sites (Greenman, 1935a, 1935b, 1937; Morgan and Ellis, 1943;

Murphy, 1971a) demonstrated similarities in topographic location and ceramic assemblage, but failed to recover data sufficient to discuss spatial organization, subsistence patterning, or resource procurement and scheduling. With little evidence these sites were assumed to represent large fortified villages whose inhabitants focused on maize agriculture. It was not until 1969, when Brose conducted extensive excavations at the Whittlesey Tradition South Park site (33Cu8), that a detailed picture of the tradition emerged. Three stratigraphically distinct occupations dating from A.D. 1000 to A.D. 1640 were identified at South Park (Brose, 1973). Evidence for increasing reliance upon maize-bean-squash agriculture and

eventual year-round village occupation was found. Information on domestic structures, site patterning, ditch and earthen fortifications and seasonal scheduling was also obtained (Brose, 1992). In essence Brose confirmed the validity of the characterization of the Whittlesey Tradition.

Before Brose's detailed contribution to understanding the Whittlesey Tradition, the archaeological community had begun to take for granted the defining characteristics of that tradition. Essentially, all of the sites located by Colonel Whittlesey, and for that matter any northern Ohio site on a steeply sided bluff with ditches, embankments or other earthworks which could be considered fortifications, were uncritically assigned to the Whittlesey Tradition. The issue we address in this paper then, is whether such assignments are valid. In so doing we will report on recent excavations conducted by Belovich and Brose (1983) and Belovich (1985a, 1985b) at the Greenwood Village site (33Su92: Whittlesey Fort No. 5). We also will discuss the development of Middle Woodland earthworks into Late Woodland fortifications.

The Environment

The Greenwood Village site is situated on the western edge of the glaciated Appalachian Plateau Province. This area was covered by ice during several Pleistocene stages, most recently during the Wisconsin (Belovich, 1985b; White and Totten, 1982). After the formation and draining of a series of pro-glacial lakes, the middle-lower Cuyahoga River flowed north into Lake Erie. The subsequent formation of numerous tributary streams caused the eastern and southern highlands along the river valley to become extensively dissected by small seasonal streams (Belovich, 1985b; Brose *et al.*, 1981; Williams, 1949). Archaeological sites located within the Cuyahoga River Valley are often encountered on the summits of these steeply sided plateaus. Severe erosion has undoubtedly reduced site sizes (Belovich, 1985b).

The soils of the uplands are derived from underlying sandstones and shales, or are of glaciofluvial origin (Williams, 1949; U.S. Department of Agriculture, 1971). The narrow floodplain of the Cuyahoga River was built by successive layering of flood-water sediments. These soils are highly fertile, and the floodplain has always been considered prime agricultural land (Brose *et al.*, 1981, p. 9).

Since 8,000 B.C. the Cuyahoga River Valley has been covered by a nearly continuous deciduous forest canopy. Within this mixed mesophytic forest, several specific floral associations can be identified (Braun, 1950; Gordon, 1969; Williams, 1949). Along the uplands farthest from the river, soils are dry and oak-hickory (and at one time, chestnut) associations predominated. On the slopes, lower elevations and moister areas, beech-maple associations are found. Elm-ash forests inhabit the bottomlands, while communities of hemlock and pines thrive along the cool, damp

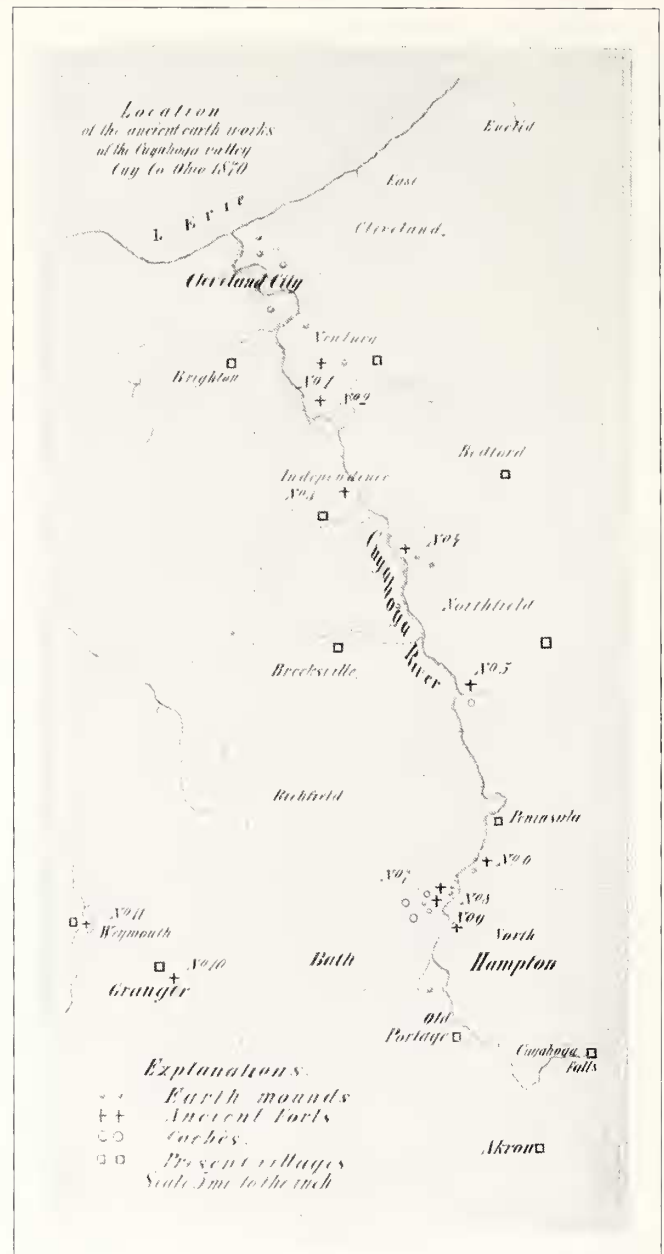


FIGURE 1. Map of Whittlesey forts located in northeast Ohio. Taken from Ancient Earth Forts of the Cuyahoga Valley, Ohio 1871.

ravines of small streams (Williams, 1949).

Detailed reconstructions of past faunal communities within the region are presently impossible. Early ethnohistoric accounts provide only general descriptions with little specific information. The soils of the uplands, the rich alluvial bottoms, and the temperate climate would have facilitated even technologically limited horticulture, while the mosaic forest patterns would have yielded a large variety of floral and faunal resources more than adequate to meet the subsistence needs of the aboriginal populations.

Historical Background: 1847-1982

The Greenwood Village site (33Su92) was recorded in 1847 by Colonel Charles Whittlesey, then Ohio's Surveyor General (Whittlesey, 1850, 1867, 1871). This site was the fifth of eleven "forts" Whittlesey located and reported along both banks of the Cuyahoga River (Figure 1). All but one of these "forts" sit atop steeply sided and relatively isolated plateaux. Each site also has at least one earthen embankment and ditch crossing the single, usually narrow, level access to the site. At Greenwood Village (Fort No. 5) and Fort No.'s 1, 3 and 11, more than one ditch/embankment were noted. Gateways and/or mounds were also recorded.

Noting the topographic location, Whittlesey not only referred to these sites as "forts" but described each with reference to its potential defense against assault. The persistence of opinion that these sites were, in fact, defensive has been primarily based on their topographic location and single, narrow level access. Previous excavations at several of these sites (Tuttle Hill [Fort 3]: Greenman, 1937; and South Park: Brose, 1973, 1992) did reveal fortified late prehistoric villages, giving apparent confirmation to this idea. Greenwood Village (Fort No. 5) with its location and extensive earthworks was thought to be another late prehistoric fortified village.

First mentioned in *Descriptions of Ancient Works in Ohio* (1850) Whittlesey called Greenwood Village a "fortification," and described three wells, two mounds, one gateway, and five ditch/embankment lines. The relevant portions of the text read as follows:

The engineers who selected the site of this fortification, understood very well the art of turning natural advantages to good account. Why they did not embrace in their plan the whole of the level space within the crest of the bluff, is not easily explained, unless we presume that their numbers were few, and not sufficient to defend the whole. On all sides, the gullies are from eighty to one hundred and ten feet deep, worn, by running water, into the blue and yellow hard pan that here forms the bluffs of the valley of the Cuyahoga River. The earth is as steep as it will stand; and, in fact, is subject to slides, that lie in terraces, resembling platforms, made by art. Before the ground was cultivated, the ditches are said by Milton Arthur, Esq., the owner of the land, to have been so deep that a man standing in them could not look over the wall.

... At the north end of the ditch of the inner wall, at the neck, there was a narrow space left as a passage into the work, but none in the outer wall. There are low mounds at m,m. The approach is along a sharp ridge called a "hog's back," merely broad

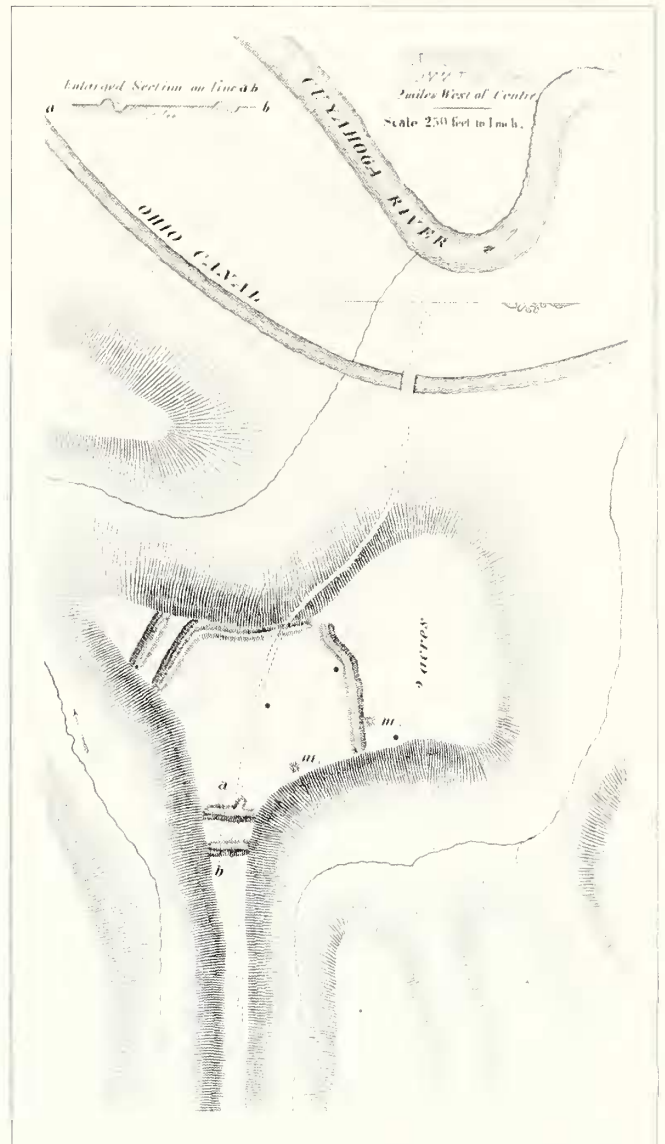


FIGURE 2. 1850 Whittlesey map of Fort No. 5: the Greenwood Village site (33Su92). Taken from *Descriptions of Ancient Works in Ohio* 1850.

enough for a single road track, for the distance of thirty rods, and the sides are as steep as any part of the bluffs adjacent ...

It is not very evident why a few rods of ground were cut off by lines at the south-west angle, nor why part of the ditch was made on the inside on the north and west.

It is very remarkable that, while all the works in northern Ohio are of a military character, there are no evidences of attacks by a foe, or of the destruction or overthrow of any of them ...

(Whittlesey, 1850, p. 17-18)

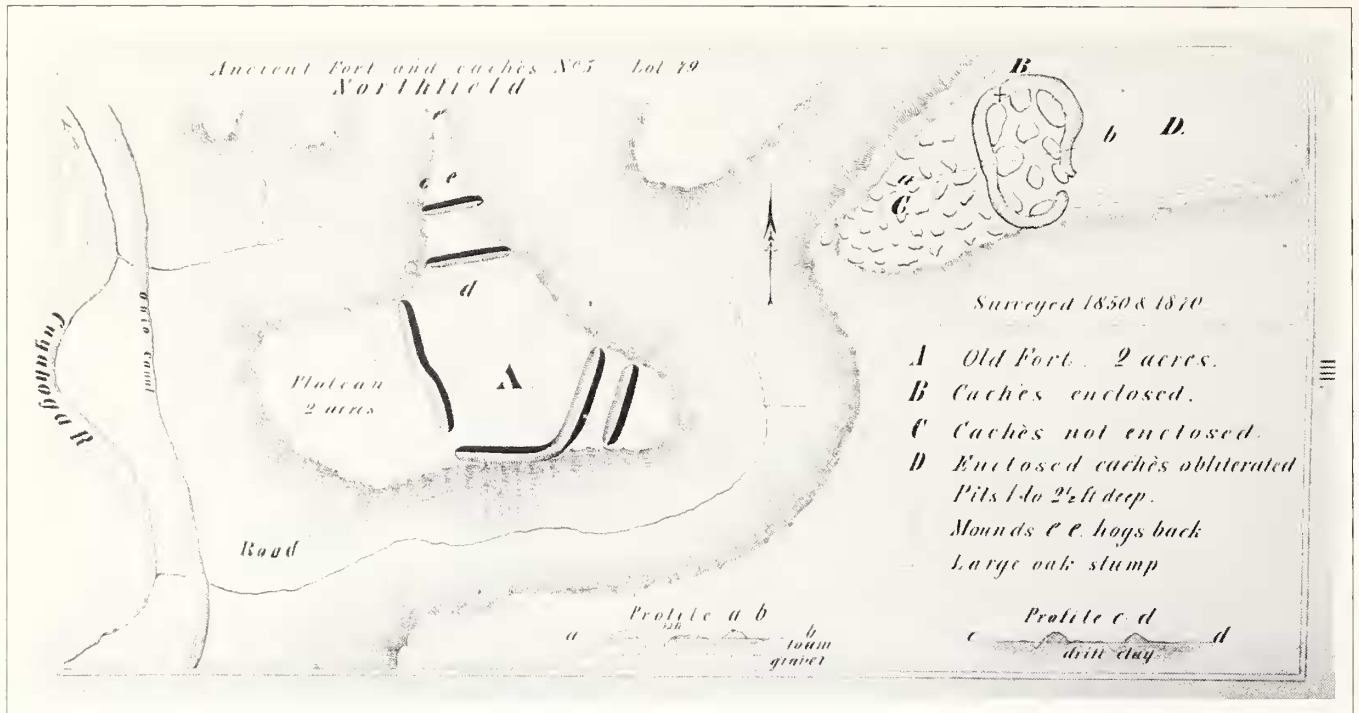


FIGURE 3. 1871 Whittlesey map of Fort No. 5: the Greenwood Village site (33Su92). Taken from *Ancient Earth Forts of the Cuyahoga Valley, Ohio 1871*.

The accompanying published map (Figure 2) was evidently drawn by Whittlesey himself. It is inaccurate in some aspects: (1) The narrow "hog's back" does not run due east as shown, but is oriented east by northeast. (2) The long axis of the plateau lies in a northwesterly direction. (3) The Cuyahoga River and Ohio Erie Canal lie more to the northwest of the site). However, it is the most accurate of all the maps he published of the site (Belovich 1985b). Unfortunately the inaccuracies of the 1850 map reappear in Whittlesey's later maps.

Nevertheless, this map indicates that Whittlesey observed two mounds along the northern edge of the site. It is also clear that four of the embankments had exterior ditches; one was without a ditch (no doubt due to its placement along the bluff edge), and an interior ditch, associated with an embankment which cuts the plateau in half indicated to Whittlesey (1867) "... a state of siege." Whittlesey carefully depicted the "... narrow space left as a passage into the work ..." (Whittlesey, 1850, p. 17-18) as a small western extension perpendicular to the innermost eastern embankment which crossed the narrow hogback leading to the site. One gateway was also present. Subsequent maps, published by Whittlesey in 1867 and 1871 (Figure 3), were accompanied by essentially similar descriptions. However the maps themselves had changed (Belovich, 1985b).

On the 1867 map both mounds grew somewhat larger while the earthwork extension became smaller. By 1871

the western earthwork extension had disappeared completely from the map. In addition, not only had the Ohio Erie Canal and the Cuyahoga River changed orientation, but the north arrow had joined them. The shape of the plateau, and the distances between the embankments also changed. The wells vanished but pits appeared, and the mounds not only moved but increased from two to three. These revisions seem so extensive that it is clear that Whittlesey not only never revisited the site, but he even failed to revisit his own notes apparently drawing the later maps from memory, if he drew them at all.

In his 1871 publication Whittlesey brought together all the data he collected during his survey on aboriginal occupation sites in the Cuyahoga Valley. Due to the ditches and embankments at many of these sites, Whittlesey called them "forts" and assigned to them a numerical order. At this time the Greenwood Village site was called "Fort No. 5" (Belovich, 1985b, p. 17).

Information for the site (apparently gleaned from Whittlesey's reports) was eventually placed in the official state files. At this time the site was given two names. It was called "Arthur Fort," after the landowner mentioned by Whittlesey in the 1850 and 1867 publications. The second name, "Whittlesey Fort No. 5," was taken from Whittlesey's 1871 publication. Finally the site was assigned the number 33Su10.

Not until 121 years later, in 1971, was the Greenwood Village site (Fort No. 5) revisited. It was investigated as

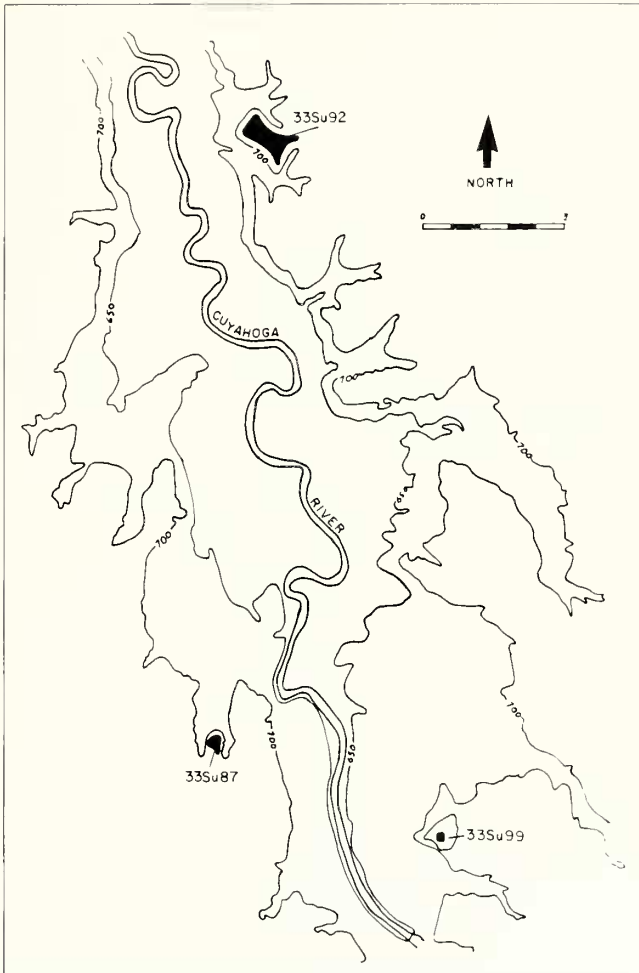


FIGURE 4. Map of the locations of the Greenwood Village (33Su92), Columbia Road Village (33Su87), and Stanford Knoll (33Su99) sites.

part of a systematic environmentally stratified survey of northeast Ohio (Brose, 1976a, 1976b). One of the sampling quadrants chosen for testing comprised three plateaux situated along the western bluffs of the Cuyahoga River, on properties then owned by the Greenwood Village Development Corporation (Brose, 1976a; Belovich and Brose, 1983; Belovich, 1985a). The plateaux were labeled according to cardinal directions and it was atop Greenwood Village West that testing was performed (Brose, 1976a; Belovich and Brose, 1983). Three 5 x 5 ft squares were excavated but only one yielded cultural material. This unit, number three, was located “about 2 m south of the northern edge of the narrow plateau neck; to the north of the path” (Belovich and Brose, 1983, p. 15). Cultural material consisted of burned and unburned bone belonging to deer, bear, rodents, birds and fish, and fragments of shell. Worked, polished and incised bone was recovered as were several sandstone abraders, bifacial and unifacial tools, and a Madison projectile point fragment. Shell and grit

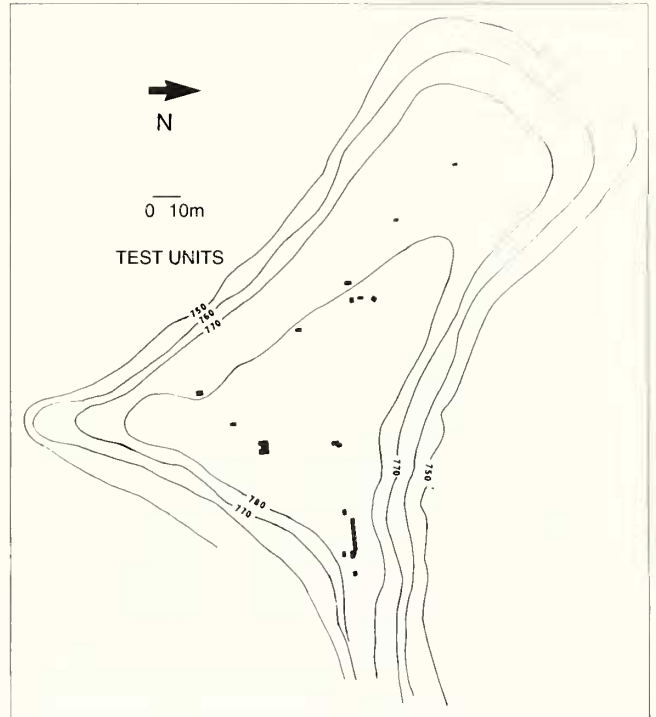


FIGURE 5. 1983/1984 Map of the Greenwood Village site (33Su92) with test unit locations indicated.

tempered ceramics included the types Fairport Harbor Cordmarked, Fairport Filleted, South Park Notched, and Tuttle Hill Notched. A few Wellsberg Simple-Stamped sherds were also recovered. These materials suggested that the site was a small agricultural village occupied from fall through spring, ca. A.D. 1300-A.D. 1400 (Brose, 1976a), relatively late in the Whittlesey Tradition (Brose, 1973).

It wasn't until 1979, when Brose and Belovich were performing a survey of the newly formed Cuyahoga Valley National Recreation Area for the National Park Service, that there was occasion to compare the 1971 field notes with the Whittlesey maps. At that time it was concluded that the plateau Brose had labeled Greenwood Village West was the same site Whittlesey had called Fort No. 5 (Brose *et al.*, 1981). Field crews were sent to test the plateau. At that time dense vegetation prevented observation of any earthworks. Of the 10 shovel tests excavated, only three yielded artifacts, none of which were diagnostic. Nevertheless based upon 1971 data and field observations in 1979, it was determined that large portions of the site remained intact (Brose *et al.*, 1981). The site was registered with the state and given a late prehistoric Whittlesey temporal placement, with a suggested date of A.D. 1250-1400.

In 1982, interests again focused on the Greenwood Village site. Further archaeological research had revealed that the site had two different USNM numbers and two

different names. Eventually it was decided that the Greenwood Village site (33Su92), would become the official designation for the prehistoric village first discovered by Col. Charles Whittlesey in 1847 (c.f. Belovich, 1985b, p. 29-30). At this time it was realized that the site, unique in its existence, preservation, and the presence of visible ditches and earthen embankments, was the only Whittlesey Fort remaining along this portion of the Cuyahoga River Valley. Cognizant of the fact that 1979 testing failed to recover diagnostic artifacts and that the site was now suffering from erosion, the National Park Service permitted two years of phased test excavations at the site.

The Greenwood Village Site

The Greenwood Village site (33Su92), in Northfield Township, extends over an entire plateau overlooking the east side of the Cuyahoga River Valley, in Summit County, Ohio (Figures 4 and 5). On all sides of the site there is evidence of erosion. It is likely that the plateau, as well as the site, was much larger when it was occupied by prehistoric groups.

Limited reconnaissance in the spring of 1983 (Belovich and Brose, 1983; Belovich, 1985b) revealed that the only clearly identifiable ditch/embankment line was the innermost one along the southern point of the plateau (Figure 2 and Figure 6). At the western extremity of this embankment another embankment joined it to form an "L" extending northwestward along the west side of the plateau. While the short portion of the "L" appeared to be present at the time of reconnaissance (Figure 6), its northwestward extent was not visible. All other ditch/embankment lines identified by Whittlesey had disappeared due to erosion or farming (Belovich, 1985b). While no mounds were observed, several undulations across the eastern narrow hogback were considered to be the possible ditch/embankment lines recorded by Whittlesey (Figure 2). These lines, as well as the interior and exterior of the earthwork, were tested (c.f. Belovich, 1985b).

Portions of the "highway" reported by Whittlesey to run through the site and down the western slope to the Canal were present, though the path had varied and was much narrowed (Belovich, 1985b, p. 33). It has been established that this path was once an 1838 roadway (Brose *et al.*, 1981). This path was later used as a jogging and motorcycle trail. It has now been converted by the National Park Service into a pedestrian nature trail.

To test the site function and chronology suggested by Brose (1976a) and the accuracy of the reports by Whittlesey (1850, 1867, 1871), four areas of the site were identified for intensive investigation: 1) the eastern, narrow neck entrance to the site; 2) the area "inside the lines [where] the ground was much richer than without them" (Whittlesey, 1871, p. 13); 3) the inner ditch/embankment



FIGURE 6. Southern ditch/embankment line, view east, March, 1992. (Note arrow indicating day pack on embankment against tree, and tree stump in ditch).

line whose placement resulted in "... reducing the fortified area to about one-half the space ..." (Whittlesey, 1867, p. 38); and 4) the combined areas outside the enclosure, where Whittlesey noted that the ground was not as "rich" as within the enclosure (Whittlesey, 1871, p. 13), and the mounds Whittlesey indicated along the northeastern end of the plateau (Belovich, 1985b).

The Features

Fifteen test units were excavated during the 1983 field season (Figure 5). After the first season it became clear that the Greenwood Village assemblage being recovered from these sub-surface excavations was not related to the Whittlesey period, but rather to earlier assemblages (Belovich and Brose, 1982; Brose, 1983; Brose and Scarry, 1976). In light of this, Belovich (1985b, p. 4-5) hypothesized that not all hilltop enclosures were defensive works, nor did they all date to the late prehistoric Whittlesey period. The nine test units excavated during the 1984 field season (Figure 5) were placed to obtain additional data on the construction, function and age of the earthen ditches and embankments, and to recover samples suitable for chronometric dating techniques to clearly place all structural and non-structural features in time (Belovich, 1985a, 1985b).

Excavations outside the western-most earthwork yielded little cultural material. Soil development was minimal with glaciolacustrine gravels at or near the surface (Belovich, 1985b). This confirmed Whittlesey's observation that the area outside the enclosure was not as "rich" as that within. Inside the enclosure, the excavation of 18 test units (40m²) revealed 15 cultural features. Most were shallow, basin-shaped, rock-filled, fire pits (Belovich, 1985a, 1985b).

Feature 6, located within the enclosure, was a unique pottery deposit containing fragments of a single, Fairport Harbor Cordmarked *var.* Willoughby vessel (Figure 7).

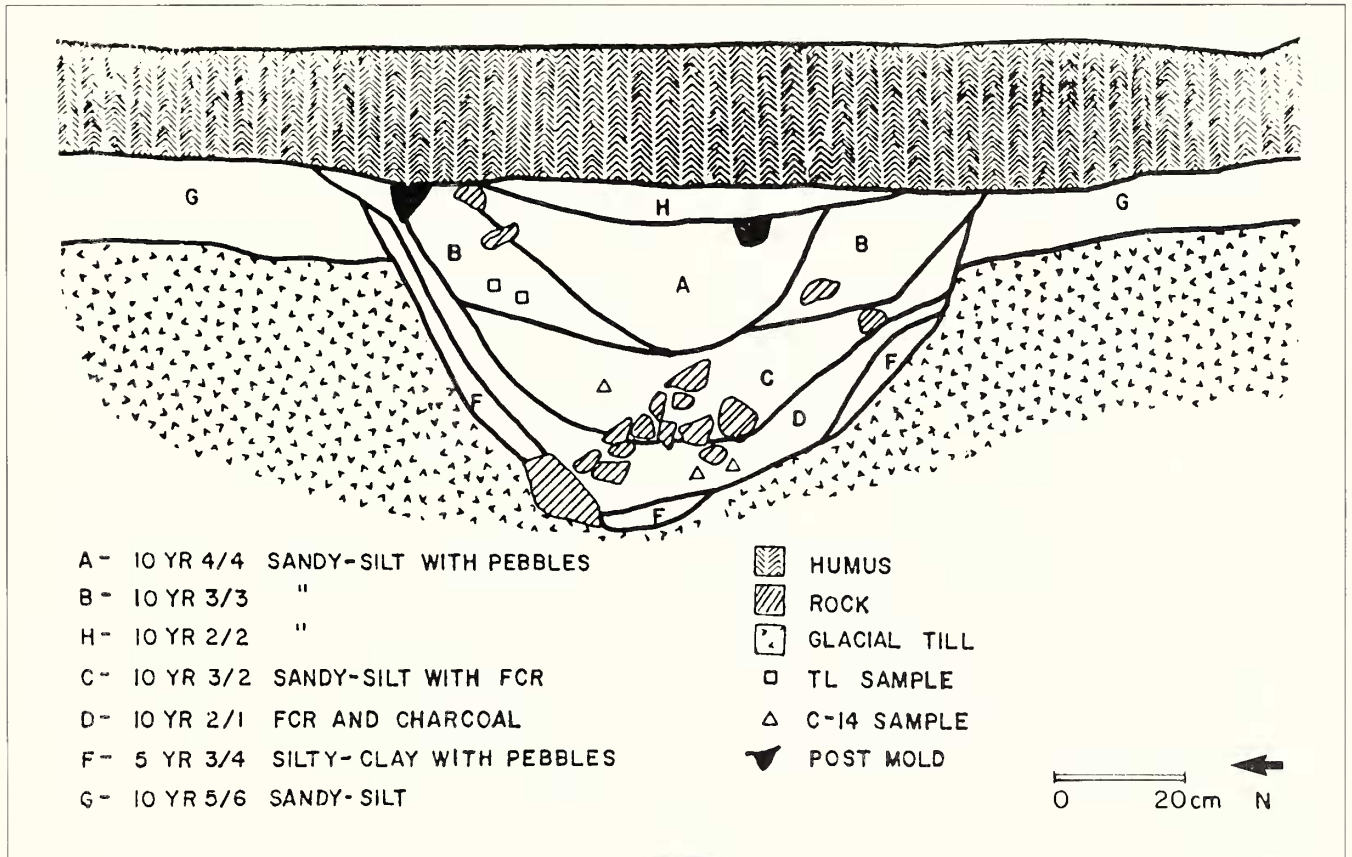


FIGURE 7. Reconstructed Fairport Harbor Cordmarked var. Willoughby pottery vessel from Feature 6. a, reconstructed vessel; b, cross section of vessel rim showing large grit-tempering.

Feature 6 was encountered 36 cm below the surface and extended to a depth of 58 cm. First identified when excavators observed pottery sherds standing on end, the majority of recovered sherds were piled atop one another in a manner consistent with the interpretation that the vessel collapsed upon itself. The placement of the sherds in this tight cluster suggested that some had been thrown or swept onto the main collapsed pile. Slightly over 200 pottery sherds were recovered from Feature 6 but not all of them could be fitted onto the reconstructed vessel. It is likely that before the vessel was buried some of its constituent sherds may have been scattered. Feature 6 represents a vessel possibly broken while sitting in a shallow pit or depression on the ground's surface. Five pieces of lithic debitage, one worked piece of shale, some minute bone flecks and a small charcoal sample were also recovered from Feature 6.

Feature 10, a meter east of Feature 6, was about 2 m in diameter and nearly 1 m deep. Areas of dense charcoal concentration and a discontinuous ring of burned orange-red soil outlined the feature. The innermost areas were composed of dark yellowish-brown silts and hard-packed clayey silts (Belovich, 1985b, p. 55). Six layers were identified within this great fire pit which yielded lithics, burned soils, dense charcoal deposits, and nearly 300 kg (657 lb) of firecracked rock (Figure 8). Samples of pottery

FIGURE 8. Feature 10, east profile.



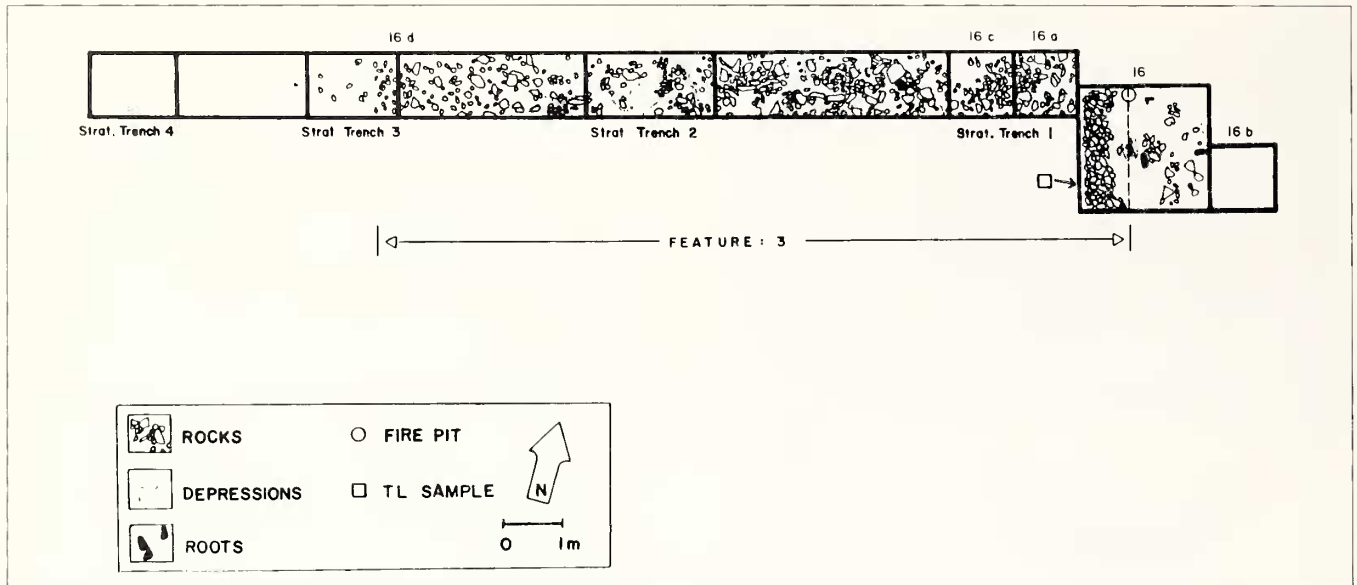


FIGURE 9. Floorplan of Feature 3: Prepared rock pavement.

for thermoluminescence dating were recovered from the third layer, and 17 carbon 14 samples mostly from the fourth and fifth layers were collected from feature fill (Belovich, 1985b). Feature 10 was devoid of any plant food remains and yielded only exceedingly fragmentary pieces of bone. Similar features were recorded at the Bugai site (Halsey, 1976) and also at the early Late Woodland, Lichliter site near Dayton, Ohio (Allman, 1957). Within the enclosure no evidence for long-term occupation was found (Belovich, 1985a). There were no domestic structures, storage pits, midden or village debris encountered. Even in features, floral and faunal remains were rare or absent. This is in marked contrast to the faunal evidence gathered by Brose in 1971 from areas further east.

Excavations begun in 1983 at one of the undulations crossing the eastern, narrow hogback entrance revealed it to be the innermost of the two lines of ditch and embankments Whittlesey recorded in that area (Figures 2 and 5). The aboriginal ditch had been excavated 30 cm into the glacial gravels. These excavated gravels were then mixed with sandy-silts to create a 15-20 cm-thick bed upon which was placed a 20-25 cm-thick layer of shale, sandstone, and igneous rock which varied in size from small pebbles to large cobbles and flagstones (Belovich, 1985b). This prepared rock pavement (Feature 3), encountered some 75 cm below the surface, formed a revetment or foundation for the earthen embankment above. Cobbles and flagstones were noted along the eastern portion of the embankment, some at increasing depths within the ditch. This suggests that they were used to face the eastern, outer slope of the embankment and retard erosion. A refilled post hole measuring 12.5 cm in diameter was observed within Feature 3 (Belovich, 1985a). This post

hole may have been part of some superstructure constructed in front of the earthen embankment to prevent erosion of the embankment into the adjacent ditch. No clear evidence of a palisade was observed.

The prepared rock pavement appeared to have been less than 2.5 m wide, roughly corresponding to the width of the base of the innermost embankment. If not for a truly serendipitous event this may have marked the end of our earthwork investigations. One excavated test unit, located on the earthen embankment to avoid the roots of several large trees, failed to find the western end of the prepared rock pavement. Two other 1 m x 1 m units excavated adjacent to the west wall of that unit also showed the pavement continuing. At that point it was decided that excavation would proceed in a "westerly direction until we encountered the western termination of Feature 3 or the Cuyahoga River; whichever came first" (Belovich, 1985b, p. 66). Feature 3 ended at a distance of 9.1 m, nearly 30 ft (Figure 9). This prepared rock pavement was constructed in the same manner as that found beneath the embankment. It lay upon a sandy-silt gravel matrix, and maintained a thickness of 20-25 cm until it tapered rather dramatically at its western margin (c.f. Belovich, 1985b, Figures 12, 13 and Plate 6). Like the embankment pavement, this extension was constructed of cobbles and tabular stones laid flat. The stones were from 5-30 cm long and 8-20 cm thick (Belovich, 1985b). Most of the rocks were shale or sandstone, no doubt gathered from the stream beds below. Careful reexamination of Whittlesey's 1850 map and notes indicated that at the innermost wall "... there was a narrow space left as a passage into the work, but none in the outer wall." This short western extension to the embankment (Figure 2) was undoubtedly the western extension Belovich

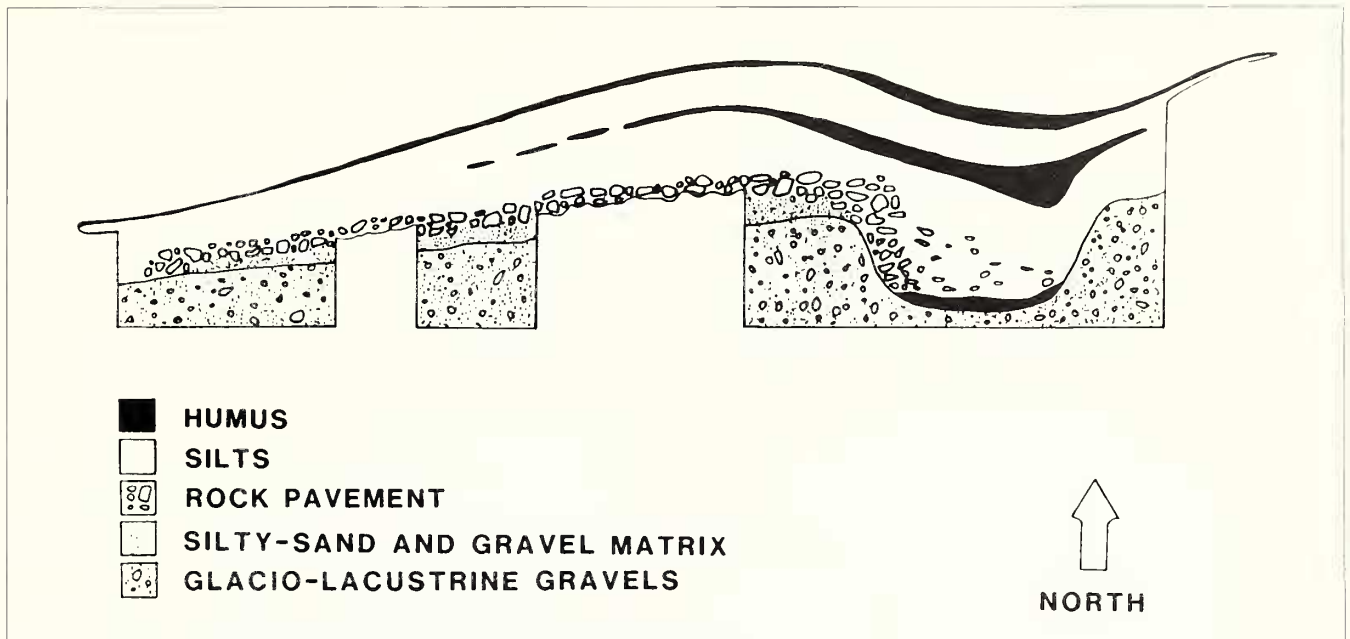


FIGURE 10. Hypothesized reconstruction of Feature 3 ditch and embankment.

had uncovered. Its graphic representation on the 1850 map, however, contrasts sharply with its length as documented by Belovich. At the time Whittlesey recorded the site, a dirt road leading to the Cuyahoga River crossed the ditch/embankment line at this spot. This road, as well as farming on the plateau, had probably reduced or covered much of the original western extension which was only revealed by these excavations.

An hypothesized reconstruction of this extension and prepared rock foundation under the embankment, with a rock facing found within the ditch to retard erosion (Belovich, 1985a, 1985b), is presented in Figure 10. Based on these data it was concluded that "... the ditch and embankment constructions [were] non-defensive earthworks, and the western extension represent[ed] a pedestrian ramp..." leading into the main area on the plateau (Belovich, 1985b, p. 180).

The few post molds that were identified at the site were located within the enclosure. All of them have been assigned to the Woodland occupation. Three post molds were located within Feature 10, the great fire pit, and one adjacent to it. Three additional post molds were identified about a meter to the southeast of Feature 10. None of these post molds yielded cultural material. Stratigraphically and horizontally they all are associated with Feature 10 and may have functioned as a windbreak and/or a drying rack for Feature 10 (Belovich, 1985).

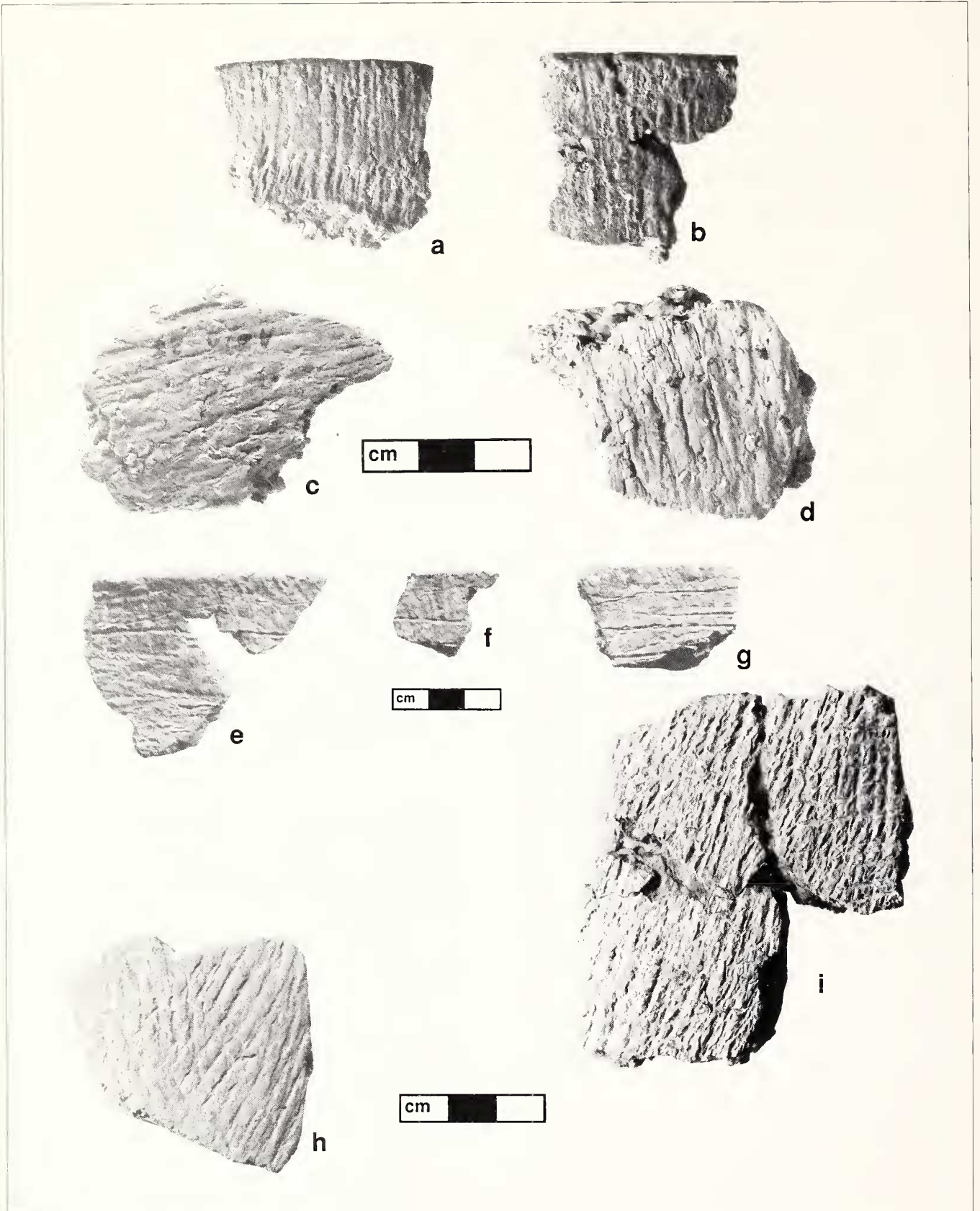
One post mold was identified within eastern profile of Feature 3, the prepared rock pavement. This was the only post mold identified in association with Feature 3 and it may have been part of some type of superstructure

constructed in front of the earthen embankment to afford some protection against erosion of the embankment in to the adjacent ditch (Belovich, 1985, p. 42).

Five other post molds were located in the central part of the plateau near Features 15 and 16. Based upon limited ceramic evidence these two fire pits and their associated post molds have been assigned to the early Late Woodland occupation at the site (Belovich, 1985). No cultural material was recovered from the post molds, but it is thought that they may have served as windbreaks, spits, or drying racks for these fire pits.

The Artifacts

The ceramics from the 1983 and 1984 excavation of Greenwood Village site are predominantly coarse grit-tempered wares (97%) although limestone tempering is present (Belovich, 1985b, Table 7). Vessels are simple sub-conoidal in shape, with weak shoulders, straight necks, and flat to slightly rounded lips (Figure 7 and Figure 11:a-b). The average thickness for rim sherds was 0.74 cm (measured 2 cm below the lip), while the average thickness for body sherds was 0.84 cm (Belovich, 1985b). The ceramics are cordmarked or fabric-marked (Figure 11:i). Cordmarking is medium to coarse and usually vertical although other orientations are known (Figure 11:c-d and h). Decoration is rare and when present consists of two to four thin, weakly incised, discontinuous lines over the cordmarking at the neck (Figure 11:e-g) (Belovich, 1985b). Similar ceramics found in early Late Woodland sites in Ohio, Indiana, Michigan, New York, western Pennsylvania, and Kentucky have been variously called Fairport Harbor



Cordmarked (Brose, 1983, 1985), Cuyahoga Cordmarked (Brose and Scarry, 1976), Jack's Reef Corded (Ritchie, 1965), Wayne Cordmarked (Fitting, 1964), Mixer Cordmarked (Shane, 1967), Watson and Mahoning Cordmarked (Mayer-Oakes, 1955), Newtown Cordmarked (Oehler, 1950; McMichael, 1984), or Peters Cordmarked (Prufer, 1967).

While displaying similarities to ceramics from southern Ohio and western Pennsylvania, Greenwood Village ceramics may be more closely related to other types in northeast Ohio (Belovich, 1985b). Some grit-tempered ceramics (including the reconstructed vessel from Feature 6) appear to be examples of the undecorated grit-tempered type Fairport Harbor Cordmarked *var.* Willoughby (Brose, 1983, 1985). This type is characterized by an unmodified, sub-conoidal vessel form with flat, slightly everted rims. Surface treatment consists of cordmarking to the lip. Fairport Harbor Cordmarked may date to as early as A.D. 900 (Brose, 1985). Greenwood Village ceramics also possess traits ascribed to the type Cuyahoga Cordmarked (Brose and Scarry, 1976; Brose, 1985). This type has globular to semi-conoidal vessels with straight to moderately outcurved rims, and "massive grit-tempering" (Brose, 1985, p. 52; Brose and Scarry, 1976). Like the type Fairport Harbor Cordmarked, Cuyahoga Cordmarked vessels are usually vertically cordmarked to the lip. Cuyahoga Cordmarked is distinguished from Fairport Harbor Cordmarked by the presence of interior cordmarking on the former (Brose and Scarry, 1976; Brose, 1985). The type Cuyahoga Cordmarked has been dated to between A.D. 900 and A.D. 1200 although it may be an early Late Woodland type which might occur to as early as A.D. 600 (Brose, 1985; Brose and Scarry, 1976, p. 185).

Greenwood Village rims display weakly incised horizontal lines (Figure 11:e-g), which can easily be seen as antecedent to the types McFate Incised (Mayer-Oakes, 1955; Murphy, 1971b; Johnson, 1976) and Reeve Horizontal (Belovich, 1985b; Fitting, 1964; Murphy, 1971b; Johnson, 1976). Some Greenwood Village sherds were similar to some ceramics recovered from the Mixer site (Shane, 1967a; Prufer and Shane, 1976), the Lyman site (Murphy, 1971c), the Fairport Harbor site (Morgan and Ellis, 1943; Murphy, 1971a), and to the East Wall site, the Reeves site, and some ceramics from the earliest levels at the South Park site (Belovich, 1985b; Brose, 1973, 1985, 1992). All of these

sites date between A.D. 800 and A.D. 1200.

Comparisons can also be made to earlier time periods and other geographic areas. Watson and Mahoning Cordmarked ceramics from the Upper Ohio Valley (Mayer-Oakes, 1955; Maslowski, 1973; Hemmings, 1984) have granite or limestone tempering and straight necks with flattened or slightly rounded lips. They have vertical exterior cordmarking to the lip, horizontal interior cordmarking, and even fabric-marking (Mayer-Oakes, 1955, p. 191-195). Greenwood Village ceramic assemblage displays all of these characteristics (Belovich, 1985b). Watson and Mahoning ceramics are considered to be Middle Woodland to early Late Woodland utilitarian wares.

The Greenwood Village ceramics also show similarities to the cordmarked grit-tempered wares assignable to the Newtown Focus of southwestern Ohio, southeastern Indiana and portions of Kentucky (Oehler, 1950, 1992; Seeman, 1980; McMichael, 1984). Newtown Cordmarked ceramics have vertical to slightly flaring rims with vertically oriented cordmarked exteriors. Some of these sherds display horizontally cordmarked interiors (Oehler, 1950; McMichael, 1984).

Like the variety of Peters Cordmarked identified at Chesser Cave in southeastern Ohio (Prufer, 1967, p. 11-12), Greenwood ceramics have straight necks and flattened lips. They are grit and limestone tempered, cordmarked, and, as Prufer stated, exhibit "shoddily and weakly incised thin lines applied to the neck" (Prufer, 1967, p. 12). Prufer noted the similarity between Peters Phase ceramics and ceramics from sites grouped together in the Cole Complex (Baby and Potter, 1965). Potter (1968, p. 62) suggested a placement of A.D. 800 to A.D. 1300 for the Cole Complex but, as Belovich noted, "Just as Prufer related Peters to Cole, so Potter related Cole to the intrusive Mound Culture of south and central Ohio, suggesting both were the same" (Belovich, 1985b, p. 165-166). Using chronology and artifact styles Halsey disagrees and suggested ". . . the Cole Complex post-dates the Mills Phase [his name for Intrusive Mound], although it could possibly be partially contemporaneous" (Halsey, 1976, p. 525). Halsey then fixed the Mills Phase somewhere between A.D. 500 and A.D. 1100 (Halsey, 1976, p. 441-446, p. 519-526).

Seven samples for radiometric analysis, four thermoluminescence samples and three carbon-14 samples (Table 1) were sent to three different laboratories: DICARB Radioisotope, Beta Analytic, and Alpha Analytic, by two different submitters; The National Park Service and The Cleveland Museum of Natural History (Belovich, 1985b). Five of these samples were collected from layers within Feature 10, the great fire pit; one from near Feature 10; and one sample from the prepared rock pavement (Feature 3). Unfortunately, for technical reasons, the TL sample

FIGURE 11. Selected grit-tempered rim and body sherds from the Greenwood Village site (33Su92). a, straight cordmarked rim sherd; b, two slightly everted cordmarked rim sherds fitted to one body sherd; c-d, horizontal cordmarked interior and vertical cordmarked exterior of a single body sherd; e-g, five cordmarked rim sherds and one body sherd with two to four horizontal incisions; h, overlapping cordmarked body sherd; i, four fabric-marked body sherds.

TABLE 1. Radiocarbon and Thermoluminescence Dates for Greenwood Village site (33St92).

| Provenience | Material | Date In Years B.P. | Corrected* Date In Years A.D. | Corrected* Range Date In Years A.D. | Laboratory |
|---|---|--------------------|--|-------------------------------------|-------------|
| A019-53 TU #10 and 20 Fea. #10, Sec. B 77cm below surface sample #1 | pottery grit-tempered cordmarked body sherd | 1180 ± 180 | A.D. 770 | A.D. 590- A.D. 950 | ALPHA-1484 |
| A019-54 TU #19 and 20 Fea. #10, Sec. B 82cm below surface sample #1 | pottery grit-tempered cordmarked body sherd | 1200 ± 210 | A.D. 750 | A.D. 540- A.D. 960* | ALPHA-1485 |
| A019-16 TU #19 and 20 Fea. #10, Sec. C 82cm below surface sample #1 | charcoal | 1260 ± 80 | A.D. 750 | A.D. 650- A.D. 850* | BETA-10715 |
| A019-22 TU #10 and 20 Fea. #10, Sec. D 100cm below surface sample #5 | charcoal | 1500 ± 60 | A.D. 525* | A.D. 460- A.D. 590 | BETA-10716 |
| A019-24 TU #19 and 20 Fea. #10, Sec. D 101cm below surface sample #7 | charcoal | 1020 ± 70 | A.D. 985* | A.D. 930- A.D. 1040* | DICARB-3072 |
| A010-23 TU #10, N 1/2 west side of unit, Level 3: 26-36cm | limestone-tempered rim sherd (once thought to be shell-tempered) | 1110 ± 170 | A.D. 840 | A.D. 670- A.D. 1010 | ALPHA-1486 |
| A016-36 TU #16, Fea. #3 Level 9: 110-130cm 11cm N, 167cm W, 122cm below surface | cordmarked grit-tempered body sherd 9.29cm x 636cm 1.1cm | | <i>No date obtainable, no fine grain, fraction present</i> | | ALPHA-1487 |

(ALPHA-1487) from the pavement was undatable. Nevertheless, the cordmarked grit-tempered ceramics from the pavement, identical to ceramics dated elsewhere on the site, lend confidence to assigning the earthworks' construction to the early Late Woodland Period. Based upon all the dates run, the major period of occupation and earthwork construction at the Greenwood Village site occurred some time between A.D. 460 and A.D. 1040, with the most likely period being between A.D. 600 and A.D. 800. With the dates from the nearby Stanford Knoll (Lee, 1986) and Columbia Road Village

(Belovich and Brose, 1982) sites, we have identified the temporal placement of coarse, grit- and limestone-tempered, cordmarked ceramics within the Cuyahoga River Valley. All radiometric information for these three northeastern Ohio sites is displayed in graphic form in Figure 12.

The lithic assemblage from Greenwood Village also contains elements common to early Late Woodland sites: shale discs and knives, and a projectile point cluster variously called Chesser Notched, Lowe Flared Base, or what Lee (1986) called Anthony Side Notched (Figures

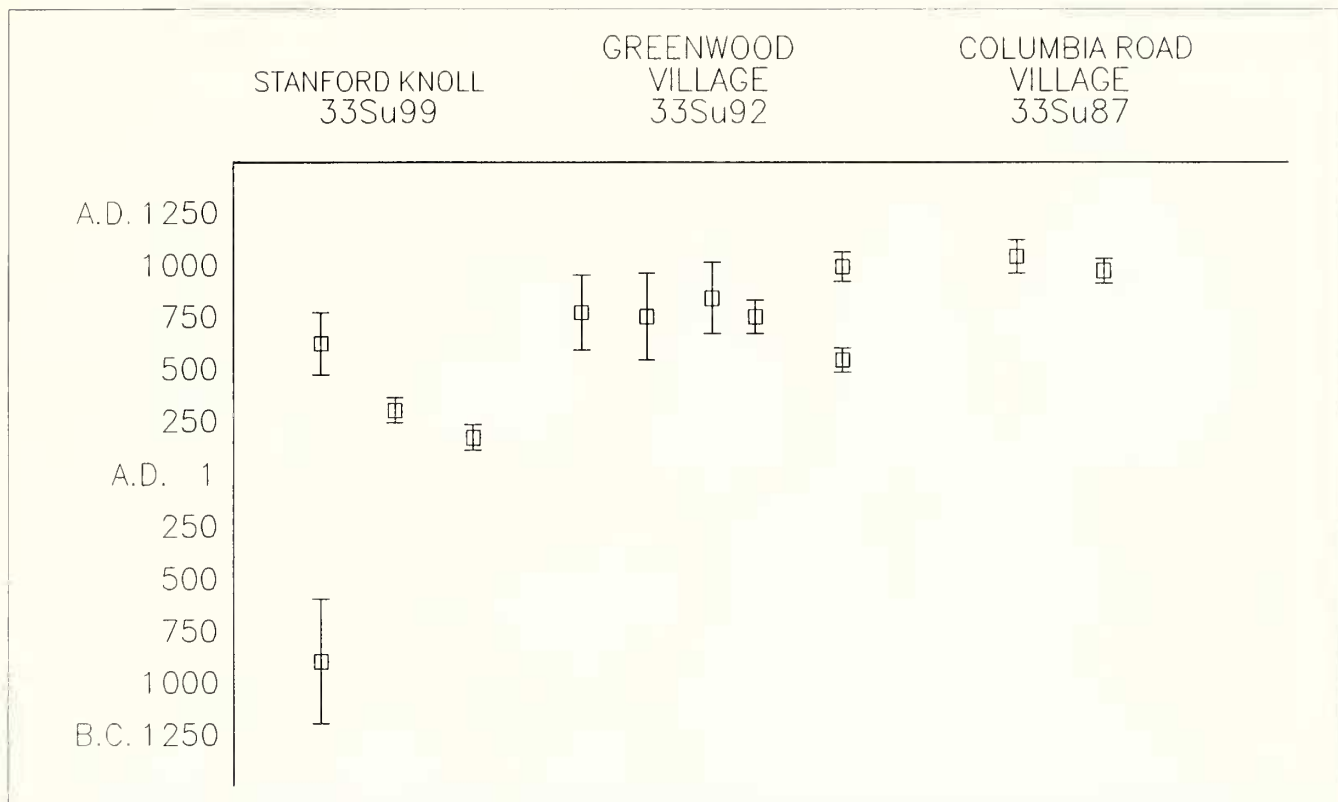


FIGURE 12. Radiocarbon dates for the Greenwood Village (33Su92), Columbia Road Village (33Su87), and Stanford Knoll (33Su99) sites.

13 and 14) (Belovich, 1985b). The shale discs and knives, important identifying characteristics of early Late Woodland lithic assemblages, have been referred to as slate discs by Halsey (1976) and others (Allman 1957, 1961). This is clearly incorrect since shale, not slate, occurs in Ohio and slate is almost non-existent in lower Michigan as well. Small, crudely flaked points, with diamond or humpbacked cross sections generally referred to as "fishspears" (Prufer, 1967; Converse, 1984) were also common (Figure 13). Pitted stones, a net sinker, hammerstones, a small shale hoe, as well as other groundstone tool fragments were recovered. Finally a modest amount of firecracked rock totalling 395.47 kg (871.86 lb) was collected and analyzed. The lithic assemblage needs little more comment than reiterating that its constituent "fishspears," Chesser/Anthony Side Notched/Lowe Flared projectile points and shale knives and discs consistently occur at early Late Woodland sites across Ohio (Schatz, 1957; Allman, 1957, 1961; Converse, 1963, 1984; Prufer, 1965, 1967, 1981; Halsey, 1976; Oplinger, 1981; Ormerod, 1983).

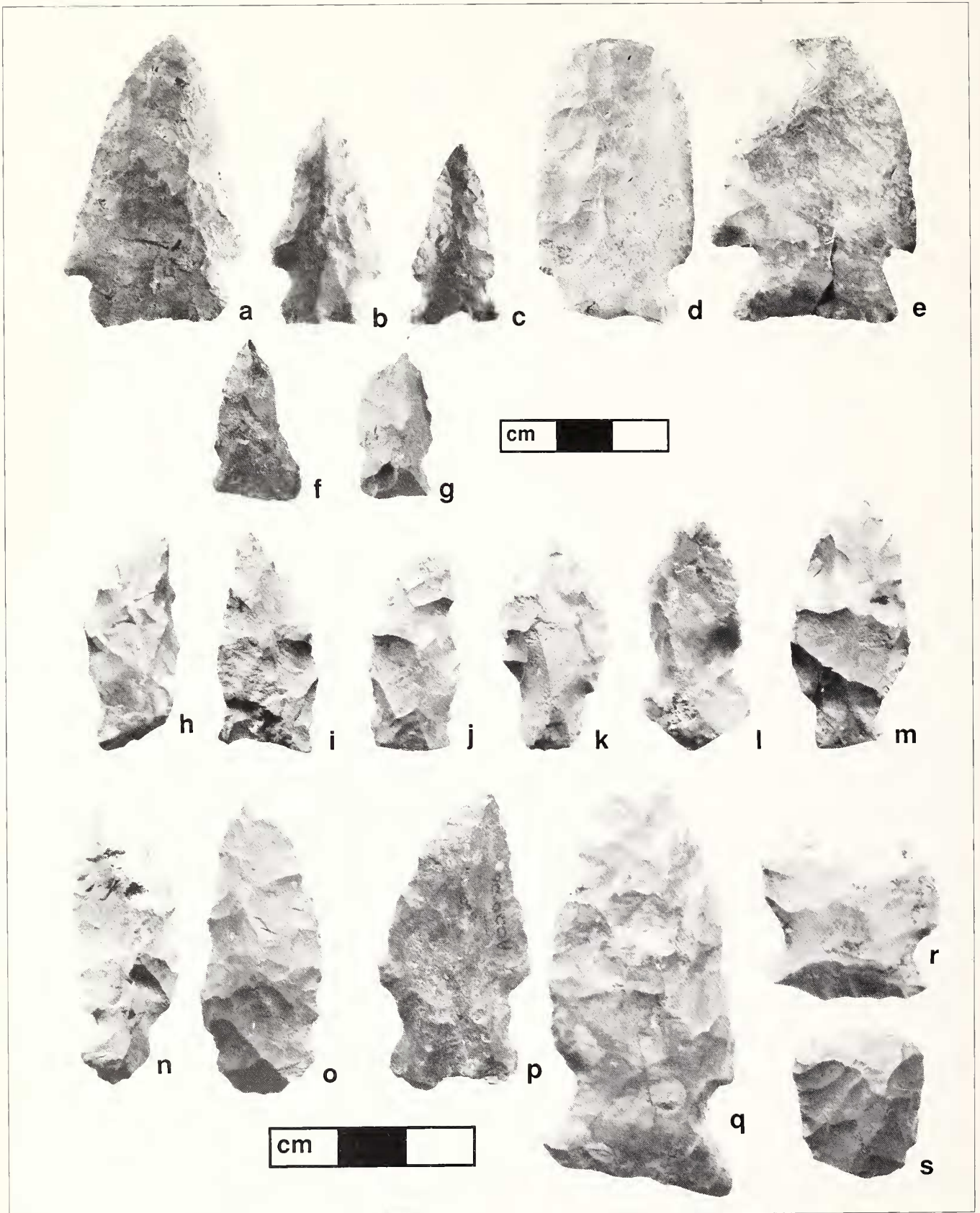
An Archaic component at the site is represented by a LeCroy bifurcate and a crudely stemmed projectile point (Belovich, 1985). Both were surface finds. No features could be assigned to the Archaic period.

Comparative Discussion

The 1983-1984 Greenwood Village site excavations failed to yield any evidence for long-term village occupation. Almost all features excavated were small firepits and there were no domestic structures, storage pits or deep midden zones of any kind (Belovich, 1983, 1985a, 1985b). Even such large, deep, fire pits, as Feature 10 are essentially devoid of plant food or faunal remains. Like the other small firepits on the site, Feature 10 represents a singular utilization event (Belovich, 1985b).

The Greenwood Village site shares traits in common with other early Late Woodland sites. The Bugai site from Saginaw County, Michigan, belongs to the Wayne Mortuary Complex. The site is dated between A.D. 500 and A.D. 1100 (Halsey, 1976, p. 445, 473). At the Bugai site a basin-shaped fire pit five feet in diameter and about a foot deep (Halsey, 1976, p. 475, 480-481) yielded fired ocher, charcoal, and two chipped discs of what Halsey (1976, p. 506) called slate. Directly below this fire pit were two bundle burials, one associated with another "slate" disc. Additional "slate" discs were recovered from other features at the Bugai site. While even a pottery concentration was excavated at Bugai (Halsey, 1976, p. 483), there were no earthworks.

The Lichliter site is a late Middle Woodland or early Late Woodland site near Dayton, Ohio (Allman, 1957).



Four houses were located and the one completely excavated circular house measured 48 ft in diameter. At its north end was a nearly square fire pit about 4 ft on a side and almost 2 ft deep. Allman observed heavy concentrations of ash and charcoal, noting that “. . . the sides were quite deeply burnt . . .” (Allman, 1957, p. 60). Faunal remains were absent but Allman did recover many stones, “. . . some over 6 inches in size . . .” and one pottery sherd. Allman concluded “. . . that this might have been a ceremonial fireplace . . .” (Allman, 1957, p. 60). This feature is similar to Feature 10 at Greenwood Village. Allman also recorded that over 55 whole and broken “slate” discs were recovered from the Lichliter site. From his published photographs, the projectile points from the site are similar to Hopewell, Chesser, and Anthony Side Notched points (Allman, 1957, p. 62).

Rock pavements and foundations like those at Greenwood Village are not unique. The Pollock Works, first recorded by Squier and Davis, were recently investigated by Riordan (1982). The site is composed of an earthen wall, cut by three gateways, stretching across a plateau situated 30 ft above Massies Creek in Greene County, Ohio (Riordan, 1982). Outside and some distance from these earthen constructions, are three semicircular earthen walls separated by three more gateways. Riordan’s excavations uncovered three limestone rock pavements at each gateway which he believes functioned to protect the earthworks from erosion and may also have served as walkways to and from the plateau’s interior. Initial radiometric dates placed the Pollock Works between 230 and 400 B.C. suggesting a late Adena affiliation (Riordan, 1982, p. 15-16). Additional radiocarbon dates obtained from wood charcoal recovered from on and beneath the Pollock earthworks clearly indicate that the site’s major period of construction was during the first and second centuries A.D. (Riordan, 1986). Riordan considers the earlier dates aberrant (Riordan, 1986).

The Fort Ancient site also has Middle Woodland earthen embankments and rock pavements (Essenpreis and Moseley, 1984). As at Greenwood Village, embankments outline the plateau, and ditches are found inside the embankment. Essenpreis and Moseley demonstrated that stone was used extensively; as facing for the outer embankment slopes, short walls to retard erosion down the

plateau slopes, and as cores or foundations for some of the embankments. Rock pavements, noted as early as 1940 by Morgan, seemed to have served as roadways between various structures within the enclosure (Morgan, 1946, 1970; Morgan and Thomas, 1950; Essenpreis and Moseley 1984). The numerous gateways, absence of structures preventing travel through the gateways, and the placement of ditches inside the embankments all suggest a non-defensive function. Miami Fort, Fort Glenford, Fort Hill, Windsor Fort, Turner, Spruce Hill, Big Creek and Indian Fort Mountain have all yielded evidence of earthen embankments and rock pavements (Fischer, 1974, p. 87).

Fort Hill (33Cu1) was first surveyed by Charles Whittlesey prior to 1888. The site is located on a plateau 200 ft above the confluence of the East and West Branches of the Rocky River. At the eastern tip of this plateau Whittlesey identified three parallel 15 ft-wide walls with 11 ft-wide ditches along their western faces (Whittlesey, 1888). At the time of his survey the maximum distance from the top of an embankment to base of a ditch was 4 ft (Whittlesey, 1888). Eight days of shovel testing in late 1985 failed to recover any evidence for a late prehistoric Whittlesey period village occupation (Lee and Belovich, 1985). There was no midden deposit of any kind, and shovel testing across the entire plateau recovered only two flint flakes (one utilized). Test excavations of the most visible of the three embankments (all have been severely disturbed by erosion, plowing or dirt bike traffic) indicated that the feature was clearly of cultural origin. Artifacts recovered from the embankment consisted of one flint flake and one quartz flake. Despite the absence of diagnostic ceramics, the similarities of Fort Hill to Greenwood Village (steeply sided plateau [twice the elevation of Greenwood Village], complete with a series of ditches and embankments, and exhibiting no midden deposit and very few artifacts) led Belovich to consider this as evidence for an early Late Woodland placement for Fort Hill (Belovich, 1985b).

Windsor Fort (33Ab3) is located on a peninsular plateau 90 ft above the west bank of Phelps Creek in Ashtabula County. The western, landward side of the plateau is crossed by two parallel ditches and embankments, about 150 ft long. The ditches lie adjacent to the west side of each embankment. The deepest, outermost ditch gives its associated embankment an apparent 7 ft height; however, when viewed from the plateau interior this wall appears only about 3 ft high. Test excavations conducted at Windsor Fort by Lee, as part of an archaeological reconnaissance of Ashtabula County, failed to uncover any evidence of deep midden deposits or village debris. Artifacts recovered were limited to small amounts of lithic debitage and three cordmarked grit-tempered body sherds. These limited data suggested to Lee that Windsor Fort was

FIGURE 13. Selected projectile points and scrapers from the Greenwood Village site (33Su92). a-c, Anthony Side Notched projectile points; d, hafted scraper made from an Anthony Side Notched projectile point; e, corner-notched projectile point similar to Lowe Flared Base type; f, thick, reworked projectile point similar to Lowe Flared Base or Chesser Notched types; g-o, projectile points with diamond-shaped or humpbacked cross sections similar to “fishspears”; p-q, Chesser Notched projectile points; r, hafted end scraper; s, thumbnail scraper.

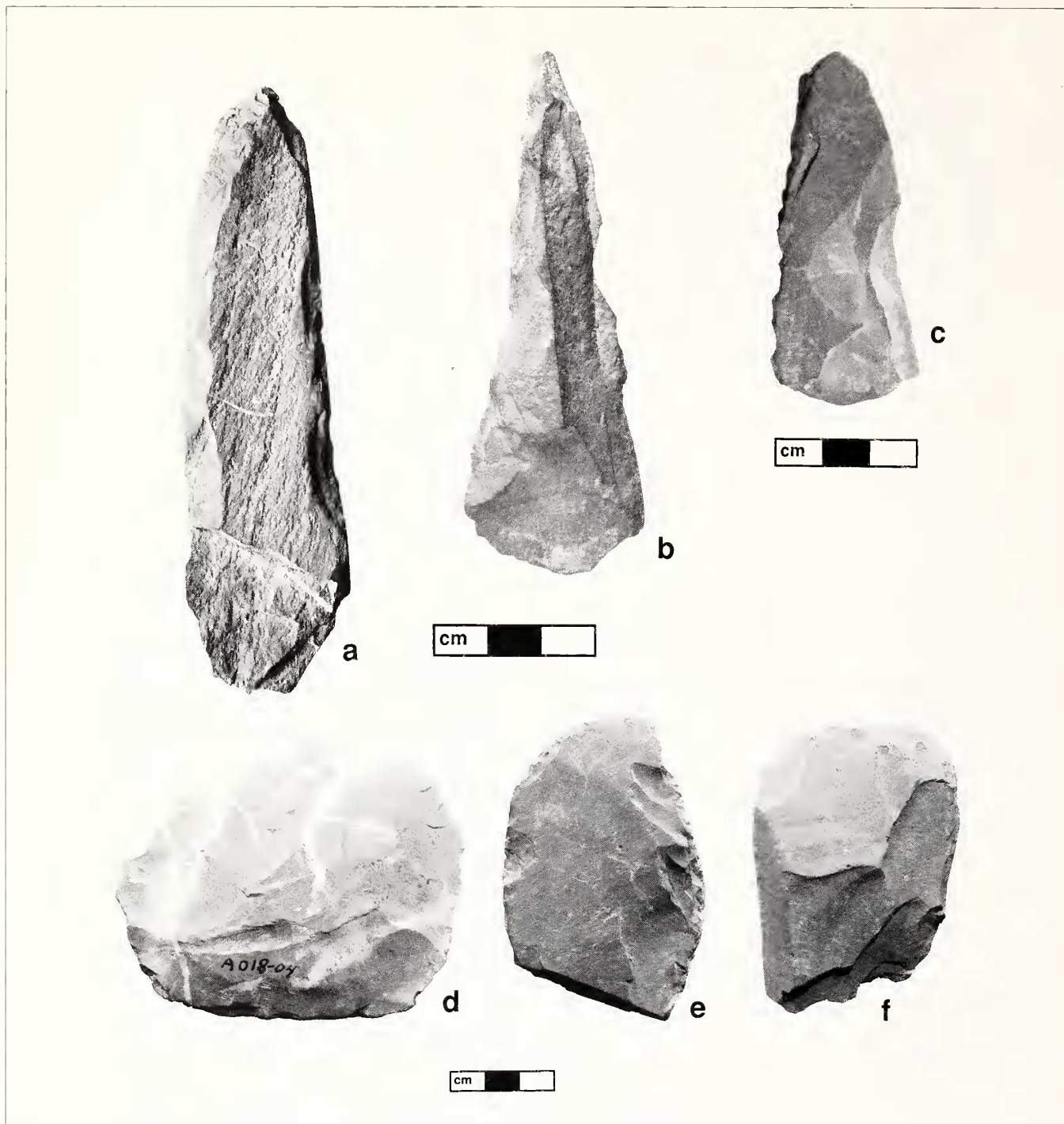


FIGURE 14. Selected shale knives and tools from the Greenwood Village site (33Su92). a, lanceolate shale knife; b-c, unifacial shale scrapers; d-e, shale discs; f, shale "hoe."

similar to Greenwood Village and more likely to date to the early Late Woodland period rather than the late prehistoric Whittlesey period (Lee, 1987).

Sites with artifact assemblages similar to Greenwood Village have also been noted in other regions of Ohio. The Water Plant site (33Fr155) in central Ohio, sits atop a high

bluff overlooking Big Walnut Creek, a tributary of the Scioto River (Dancey, 1988). Dancey identified eleven discrete debris clusters which he interpreted as distinct household units (Dancey, 1988, p. 223) although no structural evidence for houses was observed. The artifact assemblage from this site is characterized by Chesser

Notched projectile points and cordmarked grit-tempered pottery. As at Greenwood Village, ceramic decoration on Water Plant site sherds is rare. When present it consists of poorly incised lines nearly parallel to the rim (Dancey, 1988). Dancey states that the ceramics resemble the type Newtown Cordmarked (c.f. McMichael, 1984). The lithics, ceramics, and radiocarbon dates place this small village site firmly within the early Late Woodland period.

Another site in northeast Ohio, the Columbia Road Village site (33Su87), is situated atop a high ridge along the west side of the Cuyahoga River Valley (Belovich and Brose, 1982). The plateau is surrounded on three sides by very steep ravines with small intermittent streams. The fourth (south) side trails into a narrow neck which descends to another deep ravine. While no earthworks were encountered at this site, four features were excavated. Feature 2 was a random deposit of broken sherds. Feature 1 was rock-lined fire pit with a double post mold (Feature 3) adjacent to it. Feature 4 was partially excavated and appeared to be a fire pit. The large number of artifacts recovered from these excavations included projectile points, point fragments, tools, chert and shale flakes, and lithic debitage. The points and point fragments are morphologically similar to Chesser Notched points reported from the Ohio Valley (Mayer-Oakes, 1955, p. 83b; Prufer, 1967, p. 54, fig. 5, n-z). Some of these points also resemble Lamoka, Jack's Reef Corner Notched, and Lowe Flared point types (Ritchie, 1971; Reidhead and Limp, 1974). Grindingstones, hammerstones, a pipe bowl and shale gorget fragment complete the stone artifact inventory (Belovich and Brose, 1982).

All of the sherds recovered from the Columbia Road Village site were grit-tempered and some were cordmarked. Rims were cordmarked, with the cordmarking usually oriented vertically. In some instances cordmarking occurred on the inside of the rim. Most rims were straight sided or slightly excurvate while lips were usually flat. Decoration was rare; only one everted rim with finger-nail punctates was collected (Belovich and Brose, 1982).

Pottery from the Columbia Road Village site resembles the limestone-tempered Watson Cordmarked ceramics from the Upper Ohio Valley (Mayer-Oakes, 1955, p. 193-195) and the limestone-tempered cordmarked sherds from pre-Fort Ancient contexts at the Haag Site (ca. A.D. 700 - ca. A.D. 950) in southeastern Indiana (Reidhead and Limp, 1974, p. 9). Similar grit-tempered ceramics were found at the Gillie Rock Shelter near Twinsburg, Ohio, dated between A.D. 200 and A.D. 700 (Bernhardt, 1973). While Columbia Road Village site ceramics appear similar to Peters Cordmarked from Chesser Cave (Prufer and McKenzie, 1966, p. 60), Prufer stated that the ceramics from 33Su87 are somewhat thicker, are better fired, and

had finer fabrics used in their manufacture than those he had found at Chesser (personal communication, 1985). By far the strongest resemblances are with the grit-tempered cordmarked and plain ceramics from nearby Hale Farm (Brose, 1985), and the Boston Ledges Rock Shelters A and B (Brose and Scarry, 1976). Though absolute dates are not available for either of those sites, their assemblages suggest a chronological placement between A.D. 600 and A.D. 1000. Charcoal samples from Feature 1 at the Columbia Road Village site (Figure 12) date between A.D. 780 and A.D. 1005 (A.D. 930, 1090 + 85 B.P., DICARB - 2605 and A.D. 850, 1160 + 60/-50 B.P., DICARB - 2606) (c.f. for a discussion of pertinent issues surrounding DICARB dates Belovich, 1985b; Belovich and Brose, 1982). These dates plus the regional comparison of the site assemblage clearly indicate an early Late Woodland chronological placement (Figure 12).

The multicomponent Stanford Knoll site (33Su99), located east of the Cuyahoga River had Early Woodland (950 B.C.), Middle Woodland (A.D. 170-300) and early Late Woodland (A.D. 600) manifestations (Lee, 1986). While no structures were encountered, cordmarked, grit-tempered ceramics dating to the early Late Woodland period were recovered from Feature 6, a 53 cm diameter, 26 cm-deep pit. These well-fired ceramics were from 8.4-14.0 mm thick. Shallow cord impressions were "fairly widely spaced (average 1.6 mm)" (Lee, 1986, p. 40). They are virtually indistinguishable from ceramics recovered from the Greenwood Village site and could be lost within its ceramic assemblage. A thermoluminescence (Figure 12) date obtained for one of these sherds was A.D. 620 (1330 + 150, B.P. ALPHA-2621) (Lee, 1986). A carbon sample (Figure 12) from Feature 11 placed a rim sherd, virtually indistinguishable from ceramics from the Greenwood Village site, as early as A.D. 235 (1780 + 60 B.P., BETA-15012) (Lee, 1986). Two Racoon Side Notched projectile points recovered from Feature 6 suggest a very early Late Woodland date (Ritchie, 1965, p. 228, p. 258-260).

Belovich (1985b) clearly noted that early Late Woodland phases, complexes, and cultures were poorly defined both in terms of their characteristics and chronology. In an attempt to bring order to these data for southern Ohio, Seeman (1980), noting the similarity between sites originally assigned to the Cole Complex, Newtown Focus, and Peters Phase, suggested they be grouped together. He then gave them the descriptive, yet cumbersome name of Central Ohio Valley early Late Woodland and suggested a time span of A.D. 500 to A.D. 800 (Seeman, 1980, p. 17). Seeman also suggested that such Central Ohio Valley early Late Woodland cultures would extend from southwestern Ohio (Peters Cordmarked), northeastward to Pittsburgh, Pennsylvania (Watson Cordmarked) (Seeman, 1980, p. 16-17). In

Seeman's scheme, the distinct Intrusive Mound Culture spans the period A.D. 800 to A.D. 1000 (Seeman, 1980, p. 16-18). As Belovich noted, under this scheme the Cole Complex also remains,

"... but it is now represented only by those sites not already subsumed (with Newtown and Peters) under the nomen Central Ohio Valley early late (sic) Woodland. Due to their late temporal placement (post A.D. 900) and certain shared characters (guilloche designs) these Cole Complex sites are considered "to represent a late Late Woodland complex at least partially contemporaneous with Fort Ancient components to the south" (Seeman 1980:18). Finally, Seeman considers the Chesser Phase to be so poorly defined that not much more than its latest temporal placement (A.D. 1200) is suggested."

(Belovich, 1985b, p. 166)

It bears repeating, that the Greenwood Village ceramics share traits with Mixer Cordmarked, Cuyahoga Cordmarked, and Fairport Harbor Cordmarked (*var.* Willoughby) ceramics which may date from as early as A.D. 600. Few Middle Woodland sites from which a local antecedent for the Greenwood Village ceramics can be identified are known for northeast Ohio. Belovich (1985b) suggested that the early Late Woodland Greenwood Village ceramics will in fact be found to develop out of indigenous Middle Woodland styles such as those types seen at Stanford Knoll (Lee, 1986) and at other late Hopewellian sites such as Everett Knoll (Brose, 1974), the North Benton Mound (McGrath, 1945) and the Huntington Road Village site (Evangilista and Dodd, personal communication).

Conclusions

It now seems clear that the late prehistoric Whittlesey materials Brose reported in 1973 (Belovich and Brose, 1983) cannot be associated with the construction of any earthwork reported by Whittlesey at Greenwood Village. Nor do they represent any significant occupation within the enclosure. Similar late Whittlesey materials were recovered in 1985 from contexts associated with ephemeral occupations outside the enclosure and approximately 107 m further east along the narrow hogback entrance to the site, where there is some geophysical evidence for an embankment not recorded by Whittlesey (*c.f.* Belovich, 1985b).

These investigations place the occupations responsible for the earthwork constructions at a pre-Whittlesey date between A.D. 600 and A.D. 800 (Belovich, 1985a, 1985b; Belovich and Brose, 1983). The absence of structures, deep midden deposits, or storage pits with significant faunal or floral remains, and the numerous single-use fire pits,

suggest limited domestic activities which seem functionally, structurally, and even chronologically more closely related to preceding Middle Woodland phenomena than to the subsequent late prehistoric Whittlesey Tradition. Indeed, there is unambiguous evidence that burial mound construction continued into the 14th century A.D. (Belovich, 1986). The Greenwood Village earthworks and mounds further suggest that much of the cultural resources and energy expended at the site was focused on the construction activities themselves. Greenwood Village can therefore be seen as a continuation of traditional mound and earthwork construction first seen in the Early Woodland period. Construction techniques were little changed, despite the apparent social and organizational changes presumed to have occurred by the Late Woodland period. The apparent absence of exotic artifacts, mound burials, or cremations or other internments at Greenwood Village may very well be attributed to the erosion of the mounds once located along the northwestern edge of the site, and the poor preservation of bone (Belovich, 1985b). Their absence at other early Late Woodland sites may also be an artifact of preservation or it may be due to the collapse of the elaborate social ceremonialism of the Middle Woodland period.

Additional research in northern Ohio may clarify the nature of this transition from horticultural Middle Woodland, to more agricultural early Late Woodland villages, to the economic dependence on cultigens characteristic of the late prehistoric Whittlesey Tradition. While further excavations may be needed before any definitive statements can be made regarding social function at such sites as Greenwood Village or Fort Ancient, these investigations have clearly supported Belovich's (1985, p. 191) hypothesis that not all hilltop enclosures are defensive works, nor can it be assumed that all of Whittlesey's "forts" date to the late prehistoric Whittlesey period.

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